

CLAIMS

5 The embodiments of the invention in which an exclusive property or right is claimed are defined as follows. Having thus described the invention what is claimed is:

1. A method for the communication of data, said method comprising the steps of:

10 integrating at least two optical components into a photonic package that can coupled with communications equipment; and

permitting data communications between communications equipment through said optical interface, such that said optical interface provides a
15 highly integrated and flexible high bandwidth communications package suitable for data communications.

2. The method of claim 1 further comprising the step of:
communicating data between a central processing unit (CPU) and at
20 least one display unit through said photonic package.

3. The method of claim 1 wherein the step of integrating at least two optical components into a photonic package, further comprises the steps of:

mounting at least two photonic components on a multi-element
25 leadframe; and

overmolding said at least two photonic components and said multi-element leadframe with an encapsulant.

30 4. The method of claim 4 wherein said at least two optical components comprise at least one vertical cavity surface emitting laser (VCSEL).

5. The method of claim 4 wherein said at least two optical components comprise at least one photodetector.

6. The method of claim 1 further comprising the step of:

5 coupling said photonic package to a plurality of optical fibers to create said optical interface.

7. The method of claim 5 wherein said plurality of optical fibers comprises a fiber optic ribbon cable .

10

8. The method of claim 7 further comprising the step of:

maintaining alignment tolerances between said at least two optical components of said package and said optical fibers having fiber core diameters between approximately 500 microns and 1mm by utilizing alignment means integrated within said package.

15

9. The method of claim 1 wherein said communication is between a multimedia source and at least one video data display.

20 10. A method for the communication of data between a Central Processing Unit (CPU) and a display monitor through a photonic package and fiber optic interface, said method comprising the steps of:

coupling a photonic package containing at least two vertical cavity surface emitting lasers (VCSELs) with at least one ribbon plastic optical fiber to create an optical data interface; and

25

permitting data communications between said CPU and said display monitor through an optical data interface, such that said optical data interface provides a highly integrated and flexible high bandwidth communications package suitable for display data communications.

30

11. A method for the communication of data between a server and at

least one client through an optical interface, said method comprising the steps of:

creating an optical interface by coupling at least two photonic devices integrated into a common optical package residing with said server with fiber
5 optic cable; and

permitting data communications between said server and said at least one client through said optical interface, such that said optical interface provides a highly integrated and flexible high bandwidth communications
10 package suitable for data communications.

12. A system for communicating data between a CPU and a display unit through an optical fiber interface, said system comprising:

a first optical component package of at least two integrated optical
15 components electrically connected with a CPU;

a second optical component package of at least two integrated optical components electrically connected to a display unit; and

20 at least one optical fiber connecting said first optical component package and said second optical component package.

13. The system of claim 12 further comprising:

said at least one optical fiber is a ribbon cable further comprising more
25 than one optical fiber.

14. A common optical communication component package 11, comprising:

more than one photonic components mounted on a multi-element
30 leadframe; and

plastic overmolding covering said more than one photonic

components and said multi-element leadframe to create said optical interface.

15. The system of claim 12 wherein said more than one optical
5 components comprises at least one vertical cavity surface emitting laser (VCSEL).

16. The system of claim 12 wherein said more than one optical
components comprises at least one photodetector.

10

17. The system of claim 12 wherein said more than one optical
component includes optical hardware.

15

18. The system of claim 17 wherein said optical hardware includes at
least one lens.

20

19. The system of claim 12 further including alignment means integrated
with said package, wherein alignment tolerances associated with said
package to a plurality of optical fibers is maintained via alignment means
between said package and fiber optic interface associated with said optical
fibers.

25

20. The system of claim 17 wherein said optical hardware includes fiber
optic alignment means.

30

21. A system for communicating data between a server and at least one
client through an optical fiber interface, said system comprising:

at least two photonic devices integrated within a common package
coupled with at least one ribbon plastic optical fiber system to create an
optical fiber interface, wherein data communications are permitted between
said server and at least one client through said optical fiber interface, such
that said optical fiber interface provides a highly integrated and flexible high

bandwidth communications package suitable for display data communications.

22. A system for communicating data between data systems through an optical fiber interface, said system comprising:

a photonic package comprising at least one electro-optical devices integrated within a common component package that can be coupled with at least one ribbon plastic optical fiber, said package created by said devices on a multi-element leadframe and overmolding said electro-optical devices and said multi-element leadframe with an encapsulant to create a photonic package suitable for coupling to a fiber optic cable.

15